UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

REGION IV

345 COURTLAND STREET, N.E.
ATLANTA, GEORGIA 30365

Medley Farms
1309

FACT SHEET ON
FINDINGS/CONCLUSIONS OF THE
REMEDIAL INVESTIGATION AT THE
MEDLEY FARM SUPERFUND SITE
GAFFNEY, CHEROKEE COUNTY, SOUTH CAROLINA

January 1991

For More Information
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This Fact Sheet has been distributed as part of the Agency's effort to keep the local community informed and involved with respect to the Medley Farm Superfund site. The primary objective of this Fact Sheet is to convey the findings/conclusions reached in the "Draft Remedial Investigation Report, Phase I & II", dated December 1990. This report was prepared for the **Potentially Responsible Parties (PRPs)** by Sirrine Environmental Consultants (SEC). The entire **Remedial Investigation and Feasibility Study (RI/FS)** has been financed by the PRPs.

A public meeting is scheduled for Tuesday, February 12, 1991. The meeting will be held in the cafeteria of Gaffney High School and begin at 7:00 PM. At this meeting, the Agency will present the preferred remedial action for the Medley Farm Superfund site.

A glossary has also been provided for those words highlighted in bold print.

PAST AND CURRENT EVENTS

The initial draft RI report was submitted by the PRPs in March 1990. Based on comments compiled by the Agency, the PRPs conducted further RI field work to provide additional data in order to address these comments. A revised draft RI report entitled "Draft Remedial Investigation Report, Phase I & II", was submitted to the Agency in November 1990. The draft Feasibility Study (FS) was submitted in December 1990. The Agency and the South Carolina Department of Health and Environmental Control (SCDHEC) are currently preparing comments on the draft FS.

The Agency and representatives from SCDHEC met with the PRPs and their consultant, SEC, on January 22, 1991 to discuss the compiled comments on the draft RI report. The revised draft RI report should be submitted by February 15, 1991.

FINDINGS OF THE REMEDIAL INVESTIGATION

Below summarizes the conclusions stated in the draft RI that the Agency concurs with:

- Contaminants are present at the site in soils in the immediate vicinity of the disposal area and in ground water in the saprolite and bedrock beneath and downgradient of the site;

- Contaminants present in soils are related to distinct, localized, primarily shallow source areas of direct disposal (lagoons or drum disposal areas);

- The small amount of residual source materials found consist of thin, isolated pockets of sludges and debris located at former lagoon sites. This material was typically encountered at depths of ½ to 2 feet below ground surface;

- Contaminants detected in soils consist of Volatile Organic Compounds (VOCs), Semi-Volatile Organic Compounds (SVOCs), pesticides, and polychlorinated biphenyls (PCBs). PCBs were only detected in samples collected from test pits and surface soil samples. The levels of PCBs encountered were not above the Toxic Substance Control Act action levels;

- Concentrations of inorganic constituents detected in soil samples collected from the site are consistent with concentrations detected in soil samples from local background locations and with common ranges reported for natural soils. No elevated levels of inorganic constituents were observed in source characterization analyses;

- The only contaminants detected in groundwater were VOCs. VOCs were detected in both the saprolite and bedrock wells, with the highest concentrations occurring immediately beneath and downgradient of the source areas;

- Water level measurements show that the Sprouse domestic well is hydraulically upgradient of the site and has therefore, not been impacted by former disposal activities at the Medley Farm site;

- No organic contaminants were detected in groundwater samples collected from the two background wells (saprolite and bedrock) located between the site and the Sprouse well;

- Concentrations of inorganics detected in groundwater are consistent with local background levels and although several Maximum Concentration Levels (MCLs) were exceeded, these elevated levels of metals do not appear to be site related;

- The groundwater yield from wells installed in the upper portion of the bedrock are significantly higher than from wells installed in the saprolite. The dominant direction of groundwater flow is to the

southeast. Vertical gradients at the site are generally upward and of varying magnitude, and;

- Contaminants detected in groundwater (i.e., VOCs) have not reached the closest perennial discharge area (Jones Creek, located to the southeast and east of the site). No contaminants were detected in analyses of surface water and stream sediment samples collected from Jones Creek.

Although contaminated groundwater is not discharging directly into Jones Creek, it is the Agency's opinion, based on groundwater analytical and hydraulic data, that contaminated groundwater may be discharging to tributaries to Jones Creek both to the northeast and to the south of the site. Even if this is occurring, the data generated as part of the RI shows that there is no impact on Jones Creek or surface waters further downgradient than Jones Creek.

The following figures provide the locations of were all the samples were collected during both Phase I and Phase II of the RI. Figure 1 shows the locations of test pits (TP) and soil borings (SB). The corresponding table, Table 1, highlights the contaminants found as a result of this sampling effort. The detection frequencies and range of concentrations for these contaminants are also presented in this table. Figure 2 provides the locations of where surface soil and surface water/sediment samples were collected. No contaminants were detected in either the surface water samples or the sediment samples.

The locations of all the groundwater monitoring wells can be found in Figure 3. Table 2 lists the contaminants found in groundwater samples taken from shallow monitoring wells as well as the frequency of detection for these contaminants and the range of concentrations detected. Table 3 provides the same type of information but for those contaminants found in groundwater samples collected from the bedrock monitoring wells.

Table 4 provides a condensed list of contaminants identified as "Chemicals of Potential Concern by Medium" at the Medley Farm site. These contaminants are included in this table because of their 1) frequency of detection, 2) toxicity or carcinogenic effects, and/or 3) the concentrations encountered at the site. The two primary environmental mediums of concern are the soil and groundwater. Both the list of "Chemicals of Potential Concern" and the environmental mediums potentially impacted by the Medley Farm site are evaluated during the **Risk Assessment** stage of the RI/FS process.

As stated earlier, groundwater flow in both the saprolite and bedrock portions of the **aquifer** beneath the Medley Farms site are basically to the southeast as shown in Figure 4 and Figure 5, respectively. These figures are based on water level measurements collected during the RI from the monitoring wells.

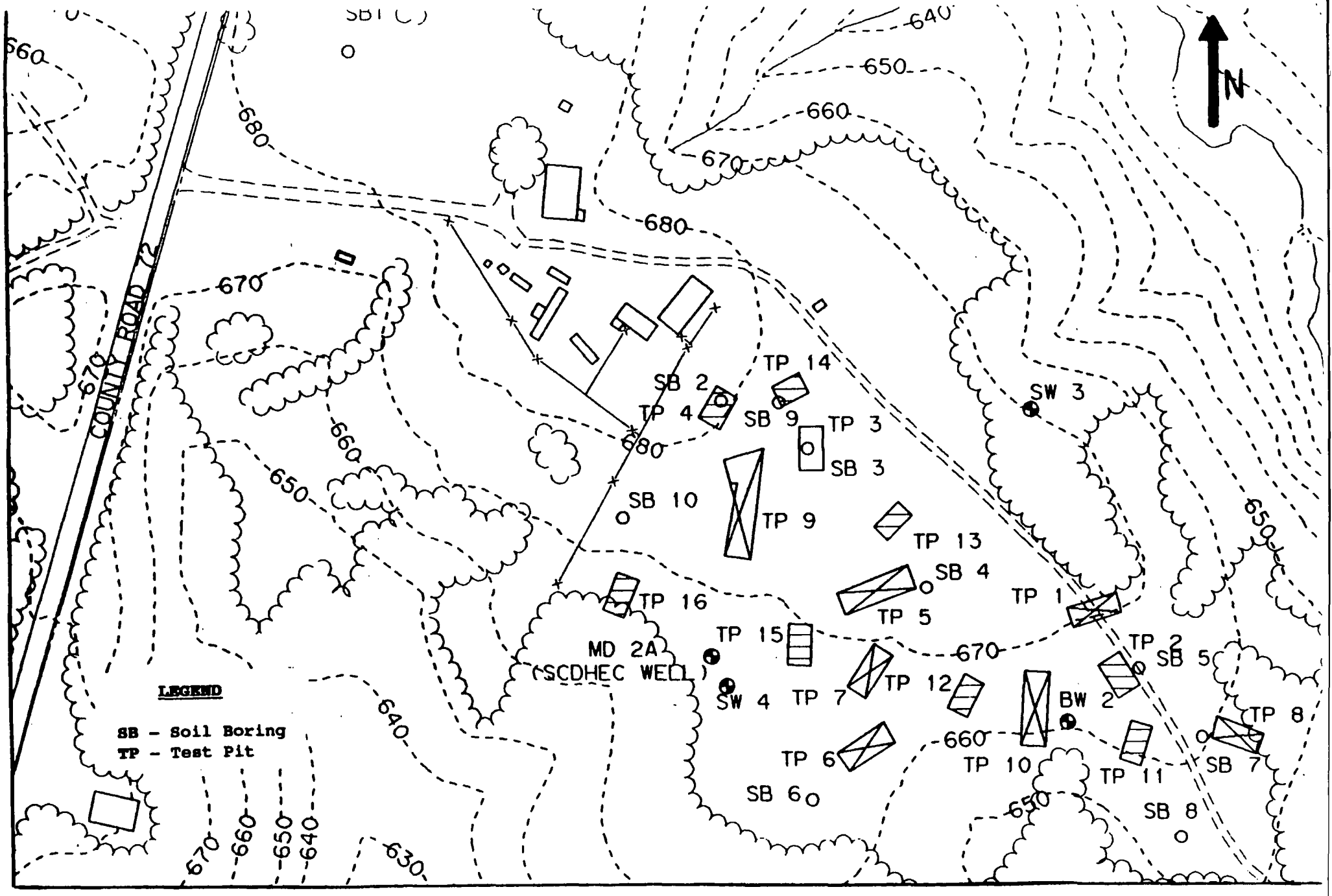

FIGURE 1 TEST PIT AND SOIL BORING LOCATIONS

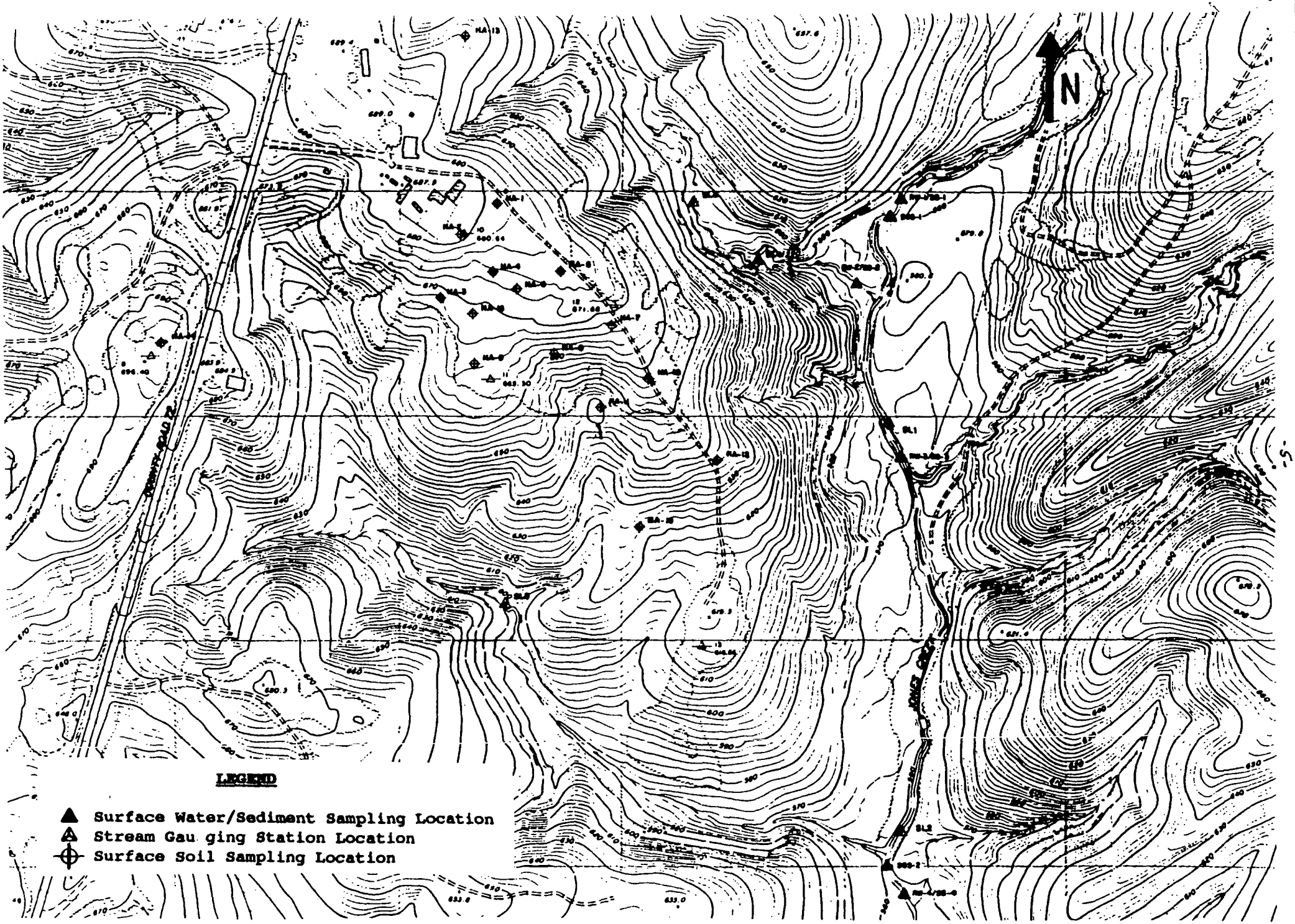

FIGURE 2 SURFACE SOIL AND SURFACE WATER/SEDIMENT SAMPLING LOCATIONS

TABLE 1 CHEMICALS DETECTED IN SURFACE SOIL

Chemical	Frequency of Detection	Range of Detected Concentrations (ug/kg)[c]
Volatile Organic Compounds[a]		
*1,1,2-Trichloroethane	2/13	110-160
*1,1,2,2-Tetrachloroethane	2/13	85-91
*1,2-Dichloroethene (total)	6/13	4-200
*1,2-Dichloropropane	1/13	21
Chlorobenzene	1/13	3
Chloroform	1/13	3
*Ethylbenzene	2/13	7-21
*Methylene Chloride	11/13	2-23
*Styrene	2/13	3-11
*Tetrachloroethene	4/13	5-69
Toluene	1/13	1
*Trichloroethene	4/13	7-70
*Vinyl Chloride	4/13	25-210
Semi-Volatile Organic Compounds[b]		
1,2-Dichlorobenzene	2/15	190-200
*1,2,4-Trichlorobenzene	4/15	810-1,200
2-Methylnaphthalene	2/15	140-160
*Butylbenzylphthalate	5/15	140-1,100
*Di-n-butylphthalate	4/15	78-1,100
*Di-n-octylphthalate	4/15	3600-5,400
Diethylphthalate	1/15	110
*bis(2-Ethylhexyl)phthalate	6/15	82-33,000
Pesticides/PCB		
*Toxaphene	2/13	330-520[d]
*PCB-1254	3/13	200-1,900

ug/kg - micrograms/kilogram (parts per billion)

* - Chemical of potential concern

(a) - Volatile organic compounds and pesticides/PCB are based on data from the following samples: HA-1 thru HA-12, and HA-6-A.

(b) - Semi-Volatile organic compounds are based on data from the following samples: HA-1 thru HA-12, HA-6-A, HA-16, and HA-16-A.

(c) - The range of detected concentrations include estimated results (chemical concentrations less than the contract-required quantation limit).

(d) - Duplicate samples taken at same location.

TABLE 2 CHEMICALS DETECTED IN GROUNDWATER - SAPROLITE WELLS

Chemical	Frequency of Detection	Range of Detected Concentrations (ug/l)[c]
Volatile Organic Compounds[a]		
*1,1-Dichloroethene	6/14	1.1-2,200
*1,1-Dichloroethane	2/14	38.0-120
*1,1,1-Trichloroethane	9/14	1.5-3,400
*1,1,2-Trichloroethane	2/14	8.0-13
*1,2-Dichloroethene (total)	3/14	5.4-31
Acetone	1/14	7
Benzene	1/14	0.7
Bromomethane	3/14	1.9-3
Carbon Disulfide	1/14	3
Chlorobenzene	1/14	0.9
Chloroform	2/14	3.0-4
*Chloromethane	3/14	5.5-26
*Methylene Chloride	3/14	2.1-38
*Tetrachloroethene	5/14	2.0-200
Toluene	2/14	1.0-1.5
*Trichloroethene	5/14	6.0-190
Semi-Volatile Organic Compounds		
1,2,4-Trichlorobenzene	1/2	3

ug/l - micrograms/liter (parts per million)

* - Chemical of potential concern

(a) - Detected concentrations include estimated results (chemical concentrations less than the contract-required quantation limit).

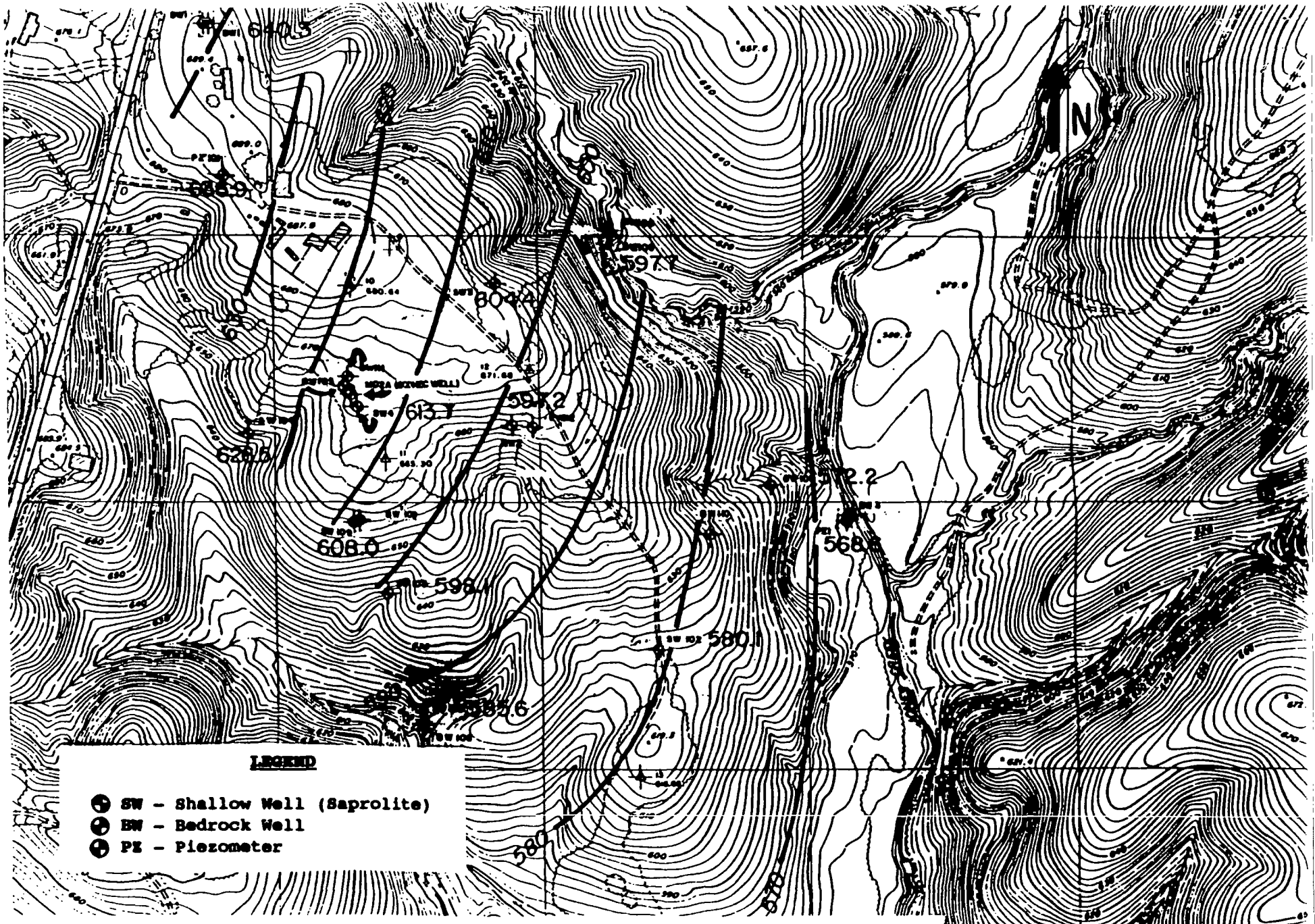

FIGURE 4 WATER TABLE POTENTIOMETRIC SURFACE

TABLE 3 CHEMICALS DETECTED IN GROUNDWATER - BEDROCK WELLS

Chemical	Frequency of Detection	Range of Detected Concentrations (ug/l)[a]
Volatile Organic Compounds		
*1,1-Dichloroethene	6/15	2.2-4400
1,1-Dichloroethane	2/15	2-3
*1,1,1-Trichloroethane	9/15	4-310
*1,1,2-Trichloroethane	1/15	3
*1,2-Dichloroethane	5/15	12-290
1,2-Dichloroethene (total)	2/15	2-17
*2-Butanone	4/15	6.8-13
*Acetone	3/15	1-18
*Benzene	1/15	11
Carbon Disulfide	1/15	4
Chlorobenzene	1/15	1
*Chloroform	6/15	4-7
Chloromethane	1/15	2
*Methylene Chloride	3/15	48-110
*Tetrachloroethene	5/15	8-230
Toluene	2/15	3-5
*Trichloroethene	5/15	140-720
Semi-Volatile Organic Compounds		
None Detected		

ug/l - micrograms/liter (parts per million)

* - Chemical of potential concern

(a) - Detected concentrations include estimated results (chemical concentrations less than the contract-required quantation limit).

TABLE 4 CHEMICALS OF POTENTIAL CONCERN BY MEDIUM

	Surface Soil	Groundwater (Saprolite)	Groundwater (Bedrock)
Volatile Organic Compounds			
1,1-Dichloroethene		X	X
1,1-Dichloroethane		X	
1,1,1-Trichloroethane		X	X
1,1,2-Trichloroethane	X	X	
1,1,2,2-Tetrachloroethane	X		
1,2-Dichloroethane			X
1,2-Dichloroethene (total)	X	X	
1,2-Dichloropropane	X		
2-Butanone			X
Acetone			X
Benzene			X
Chloroform			X
Chloromethane		X	
Ethylbenzene	X		
Methylene Chloride	X	X	X
Styrene	X		
Tetrachloroethene	X	X	X
Trichloroethene	X	X	X
Vinyl Chloride	X		
Semi-Volatile Organic Compounds			
1,2,4-Trichlorobenzene	X		
Butylbenzylphthalate	X		
Di-n-butylphthalate	X		
Di-n-octylphthalate	X		
bis(2-Ethylhexyl)phthalate	X		
Pesticides/PCB			
Toxaphene	X		
PCB-1254			

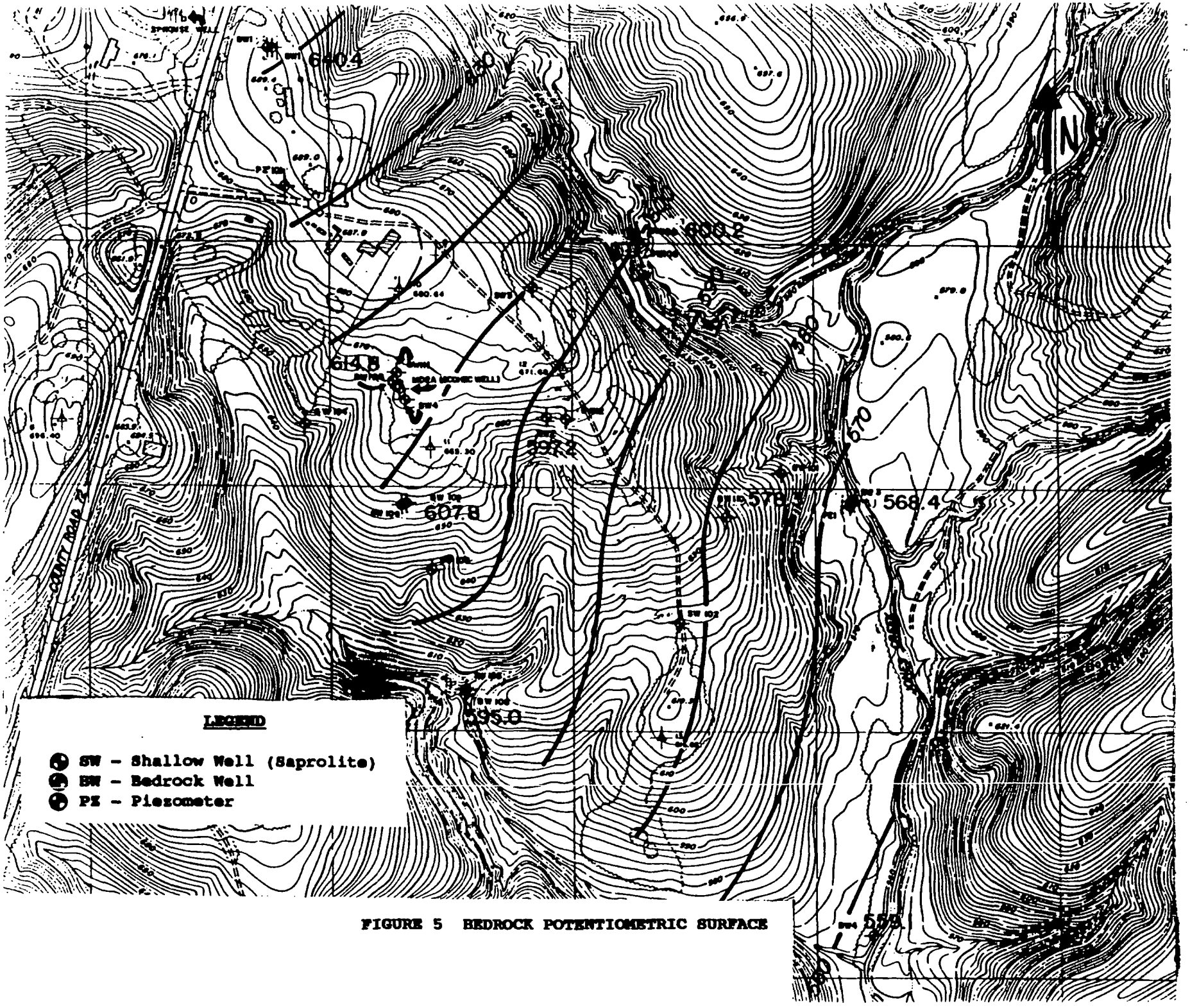

FIGURE 5 BEDROCK POTENTIOMETRIC SURFACE

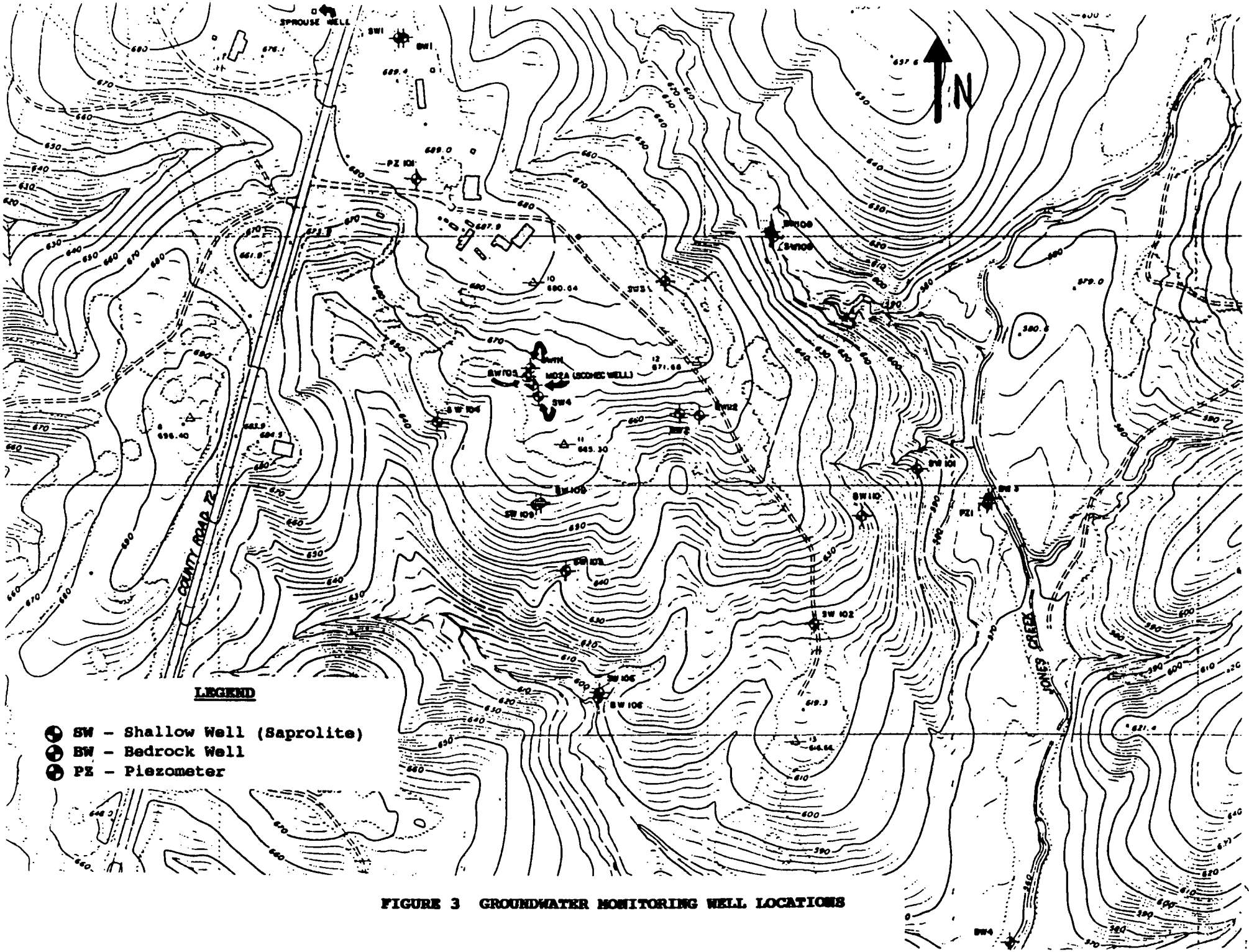

FIGURE 3 GROUNDWATER MONITORING WELL LOCATIONS

UPCOMING EVENTS

Compilation of review comments on the draft FS document and sending these comments/concerns to the PRPs; preparation and distribution of the Proposed Plan Fact Sheet to the public; issuance of the public notice for the February 12, 1991 public meeting; conducting the February 12 public meeting; and the review of the revised RI and FS documents by EPA and the State.

COMMUNITY PARTICIPATION

The Proposed Plan Fact Sheet will be mailed to all entities on the Medley Farm mailing list during the week of February 4. The Proposed Plan presents to the public a synopsis of the draft FS, identifies the preferred remedial action selected by the Agency, and rationale as to how the Agency made this selection.

The February 12 meeting will initiate a 30 day public comment period on the Agency's selected remedy. The Agency encourages the public to make comments during this 30 day comment period on either the pros or cons of the identified remedial alternative. After the Agency reviews and assesses the public comments, the Agency will then proceed with finalizing its selection of the remedial action for the Medley Farm Superfund site. This decision will be documented in the Medley Farm Record of Decision (ROD). The signing of the ROD by the Regional Administrator for Region IV, EPA will conclude the Medley Farm RI/FS.

A summary of the comments and the Agency's responses will be included in the ROD. If requested, the public comment period can be extended an additional 30 days.

TECHNICAL ASSISTANCE GRANT

As part of the Superfund program, a Technical Assistance Grant (TAG) of up to $50,000 is available to one community group to hire a technical consultant to assist them in interpreting or commenting on site findings and planned cleanup. Citizens interested in the TAG program may obtain an application package by calling or writing the EPA, Region IV Technical Assistance Grant contact listed below. Other questions or concerns regarding the site may be directed to the Remedial Project Manager, Community Relations Coordinator, or TAG coordinator, listed below.

INFORMATION REPOSITORY/ADMINISTRATIVE RECORD

An information repository has been established for the Medley Farm Superfund site at the Cherokee County Public Library. The Administrative record will also be located here as well. The Administrative Record is a file which contains all information used by the Agency to make its decision on the selection of the response action, as specified in the ROD, under the Comprehensive Environmental Response, Compensation, and Liability Act of 1980

(CERCLA). This file is required to be available for public review. A duplicate file is maintained in the Record Center in EPA, Region IV office.

FOR FURTHER INFORMATION ABOUT THIS SITE

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GLOSSARY

Aquifer: A layer of rock or soil below the ground surface that can supply usable quantities of groundwater to wells and springs. Aquifers can be a source of drinking water and provide water for other uses as well.

Bedrock: The layer of rock located below the glacially deposited soil and rock under the ground's surface. Bedrock can be either solid or fractured (cracked); fractured bedrock can support aquifers.

Groundwater: The water beneath the earth's surface that flows through soil and rock openings and often serves as a principle source of drinking water.

Maximum Concentration Level (MCLs): The maximum permissible level of a contaminant in water delivered to any user of a public water system.

Potentially Responsible Parties (PRPs): Any individual(s) or company(s) (such as owners, operators, transporters, or generators) that is potentially responsible for, or contributing to, the contamination problems at a Superfund site. Whenever possible, EPA requires PRPs, through administrative and legal actions, to clean up hazardous waste sites they have created or helped contaminated.

Remedial Investigation/Feasibility Study (RI/FS): The first stage of the Superfund remedial process. The Remedial Investigation determines the extent and compostion of contamination at a hazardous waste site. The Feasibility Study is an evaluation of remedial alternatives to cleanup a site.

Record of Decision (ROD): A public decision document that states and explains which cleanup alternative(s) will be used at a Superfund site.

Risk Assessment: A site specific baseline risk assessment characterizes the current and potential threats to human health and the environment that may be posed by contaminants migrating to groundwater or surface water, releaseing to air, leaching through soil, remaining in the soil, and bioaccumulating in the food chain. The results of the baseline risk assessment will help establish acceptable exposure levels for use in developing remedial alternatives in the feasibility study.

Saprolite: The overburden on the bedrock typical in the Piedmont province where the Medley Farm is located. The overburden, termed saprolite, is a layer of decomposed bedrock formed in place by chemical and physical weathering.

Semi-Volatile Organic Compounds (SVOC): Carbon-containing chemical compounds that, at a relatively low temperature, fluctuate between a vapor state (a gas) and a liquid state.

Target Analyte List (TAL): A list of 24 analytes typically analyzed for at Superfund sites. This list includes metals and cyanide.

Target Compound List (TCL): A list of 126 organic compounds typically analyzed for Superfund sites. This list includes volatile organics, semi-volatile organics, and pesticides/polychlorinated biphenyls (PCBs).

Volatile Organic Compounds (VOC): A subgroup of organic (i.e., carbon-containing) chemicals characterized by their greater tendency to evaporate into the air from water or soil.

U.S. EPA
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345 Courtland Street, NE
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FIRST CLASS MAIL

MAILING LIST ADDITIONS

To be placed on the mailing list to receive information on the Medley Farm Superfund Site, please complete this form and mail to:

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U.S. EPA, Region IV
345 Courtland Street, N.E.
Atlanta, Georgia 30365

Name _____

Address _____

_____

Affiliation _____

Phone _____